

1 IDENTIFICATION

PRODUCT NAME: HI-CAST 45 REFRACTORRY CASTABLE

CHEMICAL NAME: HIGH DUTY REFRACTORRY CASTABLE

PRODUCT USE: HIGH TEMPERATURE RESIDENTIAL AND INDUSTRIAL APPLICATIONS

MANUFACTURER: ALSEY REFRACTORIES COMPANY
266 STATE ROUTE 106 SOUTH
ALSEY, IL 62610
1-314-963-7900

EMERGENCY CONTACT: 1-314-963-7900
MONDAY THRU THURSDAY, 09:00 – 15:00 US CENTRAL TIME [UTC-5]

2 HAZARD IDENTIFICATION

HAZARD CLASSIFICATION: SPECIFIC TARGET ORGAN TOXICITY, REPEATED EXPOSURE – CATEGORY 1
CARCINOGENICITY – CATEGORY 1A*
SERIOUS SKIN CORROSION/IRRITATION – CATEGORY 2
EYE DAMAGE/EYE IRRITATION – CATEGORY 3
SPECIFIC TARGET ORGAN TOXICITY, SINGLE EXPOSURE – CATEGORY 3

SIGNAL WORD: **DANGER**

HAZARD STATEMENTS: MAY CAUSE DAMAGE TO LUNGS THROUGH PROLONGED/REPEATED EXPOSURE THROUGH INHALATION
MAY CAUSE CANCER [SILICOSIS]*
CAUSES MILD SKIN IRRITATION
CAUSES EYE IRRITATION

PICTOGRAM:



PRECAUTIONARY STATEMENTS:

PREVENTION: DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT.
USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA.
USE PERSONAL PROTECTIVE EQUIPMENT AS REQUIRED.
WASH THOROUGHLY AFTER HANDLING.

RESPONSE: EYE IRRITATION: REMOVE CONTACT LENSES AND RINSE EYES
SEEK MEDICAL ATTENTION IF NECESSARY

SKIN IRRITATION: WASH WITH SOAP AND WATER.
SEEK MEDICAL ATTENTION IF NECESSARY

BREATHING: IF DIFFICULTY BREATHING REMOVE TO FRESH AIR, KEEP AT REST
SEEK IMMEDIATE MEDICAL ATTENTION.

*ACCORDING TO GROUP 1 OF THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), THERE IS SUFFICIENT EVIDENCE IN HUMANS FOR THE CARCINOGENICITY OF INHALED CRYSTALLINE SILICA IN THE FORM OF QUARTZ OR CRISTOBALITE FROM OCCUPATIONAL SOURCES.

3 COMPOSITION/INFORMATION ON INGR EDIENTS

CHEMICAL NAME	CAS-NO	WEIGHT %
SILICA (TOTAL)		35-60
CRYSTALLINE SILICA (TOTAL)		
CRISTOBALITE (SiO ₂)**	14464-46-1	
QUARTZ (SiO ₂)**	14808-60-7	
TITANIUM DIOXIDE	13463-67-7	1-8
ALUMINUM OXIDE	1344-28-1	7-18
CALCIUM ALUMINATE CEMENT	65997-16-2	5-20

** QUARTZ AND CRISTOBALITE, POLYMORPHS OF CRYSTALLINE SILICA, CLASSIFIED BY IARC AS KNOWN HUMAN CARCINOGENS – GROUP 1. NTP LISTS RESPIRABLE CRYSTALLINE SILICA AMONG SUBSTANCES WHICH MAY REASONABLE BE ANTICIPATED TO BE CARCINOGENS.

4 FIRST AID MEASURES

INHALATION: FIRST AID NOT GENERALLY REQUIRED. PRODUCCT IS SUPPLIED WET DUST CANNOT OCCUR UNTIL AFTER DRYING OR SETTING. IF DIFFUCLTY BREATHING OCCURS WHILE BREATHING DUST, MOVE THE PERSON TO FRESH AIR AND SEEK MEDICAL ATTENTION ONLY IF NECESSARY.

SKIN CONTACT: IF SKIN IRRITATION OCCURS, WASH THOUROUGHLY WITH SOAP AND WATER.

EYE CONTACT: WASH IMMEDIATELY WITH WATER. DO NOT RUB EYES. REMOVE CONTACT LENSES. SEEK MEDIAL ATTENTION IF IRRITATION PERSISTS

ACUTE/DELAYED: EYES – PARTICULATES MAY CAUSE ABRASIVE EYE DAMAGE
 INHALATION – MAY CAUSE RESPIRARTORY TRACT IRRITATION
 PROLONGED INHALATION – MAY CAUSE LUNG DISEASE, INCLUDING SILICOSIS

ROUTES OF ENTRY: EYES, SKIN, INHALATION

5 FIRE FIGHTING MEASURES

NON-FLAMMABLE, NON-COMUBSTABLE, NON AUTO-IGNITING

NO SPECIAL INSTRUCTIONS OR CONDITIONS EXIST

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: AVOID BREATHING DUST. SKIN AND EYE CONTACT SHOULD BE AVOIDED.

SMALL/LARGE SPILL: SCOOP OR SHOVEL AND PLACE IN CONTAINER FOR DISPOAL.

METHODS FOR CLEAN UP: DISPOSE CONTAMINATED MATERIAL AS WASTE ACCORDING TO SECTION 13. ENSURE ADEQUATE VENTILATION.

7 HANDLING AND STORAGE

HANDLING: PREVENT FORMATION OF DUST. ENSURE PROPER VENTILATION. KEEP RESPIRATORY DEVICE AVAILABLE.

STORAGE: STORE IN A DRY PLACE AWAY FROM EXTREME HEAT; MINIMIZE SKIN CONTACT.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES

CHEMICAL NAME	CAS-NO	OSHA PEL (RESPIRABLE DUST)
CRYSTALLINE SILICA (CRISTOBALITE)	14464-46-1	<u>½ THE VALUE CALCULATED FROM THE RESPIRABLE DUST FORMULA FOR QUARTZ</u>
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	10mg/m ³
TITANIUM DIOXIDE	13463-67-7	%SiO ₂ +2=STEL/CEIL (C) (RESPIRABLE DUST)
ALUMINUM OXIDE	1344-09-8	15 mg/m ³ *TOTAL DUST
CALCIUM ALUMINATE CEMENT	65997-16-2	15 mg/m ³ *TOTAL DUST or 5 mg/m ³ (RESP. FRACTION)
		NOT ESTABLISHED

ENGINEERING MEASURES: GENERAL MECHANICAL VENTILATION IS USUALLY ADEQUATE.

EYE/FACE PROTECTION: GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS SHOULD BE WORN.

SKIN AND BODY PROTECTION: IMPERVIOUS GLOVES AND LONG-SLEEVED AND LONG-LEGGED CLOTHING SHOULD BE WORN TO PREVENT SKIN CONTACT. SAFETY SHOES SHOULD BE WORN TO PREVENT FOOT INJURY FROM ACCIDENTALLY DROPPED BRICKS.

RESPIRATORY PROTECTION: USE A NIOSH APPROVED RESPIRATOR WHEN WORKING AROUND MATERIAL AND WHEN REMOVING THIS PRODUCT AFTER SERVICE. A RESPIRATORY PROTECTION PROGRAM SHOULD BE IMPLEMENTED IF EXPOSURES EXCEED OSHA PELs.

WORK/HYGIENIC PRACTICES: AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AFTER HANDLING THIS PRODUCT, WASH HANDS BEFORE EATING OR DRINKING.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	BROWN POWDER	AUTO IGNITION:	PRODUCT IS NOT SELF-IGNITING
PHYSICAL STATE:	GRANULAR MIXTURE	ODOR:	EARTHY
PH:	NA	WATER SOLUBILITY:	SLIGHT
FLASH POINT:	NOT APPLICABLE	EXPLOSION LIMITS:	NOT AN EXPLOSION HAZARD
BOILING POINT:	NOT APPLICABLE	MELTING POINT:	3050°F

SPECIFIC GRAVITY: 2.11 g/cc

10 STABILITY AND REACTIVITY

STABILITY: PRODUCT IS STABLE UNDER NORMAL CONDITIONS OF USE, STORAGE, AND TRANSPORTATION.

INCOMPATIBLE PRODUCTS: AVOID CONTACT WITH ALUMINUM.

CONDITIONS TO AVOID: AVOID DUST FORMATION. REFRACTORIES CONTAINING CRYSTALLINE SILICA MAY, AFTER SERVICE, CONTAIN MORE OR LESS CRYSTALLINE SILICA. CARE MUST BE TAKEN TO AVOID AND/OR CONTROL DUST FROM DEMOLITION. IF IN DOUBT OF THE PROPER PROTECTION, SEEK ADVICE FROM A SAFETY PROFESSIONAL.

11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY—PRODUCT INFORMATION: NO DATA FOR LD50 OR LC50 FOR ORAL, DERMAL OR INHALATION ROUTES OF ADMINISTRATION.

CHRONIC TOXICITY: IRRITANT TO SKIN AND MUCOUS MEMBRANES.

CARCINOGENICITY: CARCINOGENIC IF INHALED.

Chemical Name	Carcinogenicity Category
CRISTOBALITE (SiO ₂) 14464-46-1	IARC-1, MAK-1, NIOSH-Ca, NTP-K, TLV-A2
QUARTZ (SiO ₂) 14808-60-7	IARC-1, MAK-1, NIOSH-Ca, NTP-K, TLV-A2
SILICA, VITREOUS 60676-86-0	IARC-3, NIOSH-Ca
TITANIUM DIOXIDE 13463-67-1	IARC-2B, MAK-3A, NIOSH-Ca, TLV-A4
ALUMINUM OXIDE	MAK-2(fibrous dust), TLV-A4

TARGET ORGAN EFFECTS: LUNGS, EYES, RESPIRATORY SYSTEM, SKIN

12 ECOLOGICAL INFORMATION

ECO TOXICOLOGICAL/CHEMICAL FATE INFORMATION: NOT AVAILABLE.

13 DISPOSAL INFORMATION

DISPOSAL OF PRODUCT: AS SUPPLIED, PRODUCT MAY BE DISPOSED OF IN AN APPROVED LANDFILL, IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. DUST CREATED DURING DEMOLITION OF USED PRODUCT MAY CONTAIN CRYSTALLINE SILICA.

PACKAGING DISPOSAL: REUSE, RECYCLE OR TREAT AS INDUSTRIAL WASTE.

14 TRANSPORT INFORMATION

U.S.A. DOT: NOT REGULATED.

CANADIAN TDG: NOT REGULATED.

ADDITIONAL INFORMATION: NOT DANGEROUS ACCORDING TO AVAILABLE INFORMATION.

15 REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

TSCA: THIS SUBSTANCE OR ALL THE INGREDIENTS OF THIS PRODUCT ARE ON THE CHEMICAL SUBSTANCES INVENTORY OF THE TOXIC SUBSTANCES CONTROL ACT (TSCA INVENTORY). THE PRESENCE ON THIS LIST DOES NOT REQUIRE ANY LEGAL REPORTING. ALL COMPONENTS LISTED.

DSL: ALL COMPONENTS LISTED.

U.S. FEDERAL REGULATIONS

SARA 313: NO MATERIAL LISTED IN THE COMPONENTS IN SECTION 3 OF THIS MSDS IS ON THE SARA 313 LIST.

CALIFORNIA: CALIFORNIA PROPOSITION 65: THIS PRODUCT CONTAINS CRYSTALLINE SILICA, CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

OTHER STATES: CRYSTALLINE SILICA PRODUCTS ARE NOT KNOWN TO BE REGULATED BY STATES OTHER THAN CALIFORNIA; HOWEVER, STATE AND LOCAL OSHA AND EPA REGULATIONS MAY APPLY TO THESE PRODUCTS. CONTACT YOUR LOCAL AGENCY IF IN DOUBT.

WHMIS HAZARD CLASS

CLASS D - DIVISION 2 - SUB DIVISION A: UNTESTED MIXTURE CONTAINING A VERY TOXIC MATERIAL

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CONTROLLED PRODUCTS REGULATIONS (CPR) AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

16 OTHER INFORMATION

REMOVAL OF REFRACTORIES:

DUE TO THE PRESENCE OF CRYSTALLINE SILICA IN USED REFRACTORY DEBRIS, CAUTION SHOULD BE USED DURING TEAR-OUT.

- 1 EMPLOYEES SHOULD BE APPRISED OF THE HAZARDS AND PRECAUTIONS FOR SAFE USE AND/OR EXPOSURE.
- 2 APPROVED RESPIRATORS, IN ACCORDANCE WITH REQUIREMENTS OF FEDERAL REGULATIONS, SHOULD BE USED FOR DUST LEVELS ABOVE ESTABLISHED EXPOSURE LIMITS FOR RESPIRABLE CRYSTALLINE SILICA.
- 3 DUST GENERATION SHOULD BE MINIMIZED BY THE USE OF DUST CONTROL EQUIPMENT OR WATER SPRAY.
- 4 WEAR PROTECTIVE CLOTHING AND VACUUM CLEAN PRIOR TO REMOVING CLOTHING.
- 5 WHERE THERE IS A POSSIBILITY OF EXPOSURE TO DUST CONTAINING RESPIRABLE CRYSTALLINE SILICA, THE FOLLOWING WARNING SHOULD BE POSTED.

FREE SILICA WORK AREA	AVOID BREATHING DUST
DUST MAY CAUSE DELAYED LUNG INJURY [SILICOSIS]	

NOTE: THIS SAFETY DATA SHEET CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION AND IS NOT TO BE DISCLOSED TO THE GENERAL PUBLIC OR TO COMPETITION EXCEPT AS REQUIRED BY LAW. THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE, WHETHER ORIGINATING WITH ALSEY REFRACTORIES COMPANY OR NOT. THIS INFORMATION IS OFFERED SOLELY FOR USE IN YOUR EVALUATION OF THIS PRODUCT IN RESPECT TO SAFETY, HEALTH, AND ENVIRONMENTAL HAZARDS.

**SDS STATUS: REPLACES ALL PRIOR SDS
SDS END**